

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Vincent P. Dattilo
Appl. No.:
Filed: February 28, 2002
Title: METHOD AND APPARATUS FOR APPLYING A POLYCHROMATIC
COATING ONTO A SUBSTRATE

Group Art Unit: Not Assigned
Examiner: Not Assigned

Docket No.: 1552D1

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Preliminary to a first Official Action in the above-identified application, please amend the application as follows:

In the Specification:

Please amend the paragraph entitled "CROSS-REFERENCE TO RELATED APPLICATIONS" bridging lines 7-14 on page 1 of the application to read as follows:

CROSS-REFERENCE TO RELATED APPLICATIONS

This patent application is a division of U.S. Patent Application Serial No. 09/439,397 filed November 15, 1999, herein incorporated by reference in its entirety. Also, this patent application is related to U.S. Patent Application Serial No. 09/440,367 entitled "Method and Apparatus for Dynamically Coating a Substrate"; and U.S. Patent Application Serial No. 09/440,610 entitled "Method and Apparatus for Applying a Coating onto a Substrate", both of Vincent P. Dattilo, each of which is herein incorporated by reference in its entirety.

In the Claims:

Please cancel claims 1-21 and 25-27.

Please add new claims 28-35 as follows:

--28. A method of controlling multiple applicators in a coating process, comprising the steps of:

defining a control ratio of atomization energy to coating flow rate for a coating process; and

controlling multiple applicators such that the applicators substantially maintain the control ratio during the coating process.

29. The method of claim 28, wherein the applicators are bell applicators and the control ratio is defined as:

$$S \cdot V / CF$$

where S is the bell cup speed, V is the shaping air supplied, and CF is the coating flow rate.

30. The method of claim 28, wherein the applicators are gun applicators and the control ratio is defined as:

$$AS \cdot FS / CF$$

where AS is atomization air supplied, FS is the fan air supplied, and CF is the coating flow rate.

31. The method of claim 28, wherein the defining step is practiced by:

choosing applicator control parameters that provide a desired coating; and

utilizing the chosen control parameters to define the control ratio.

32. The method of claim 31, wherein the choosing step is practiced by:

adjusting the control parameters to provide at least one of a selected coating droplet size, a selected distribution of coating droplet sizes, a desired droplet uniformity, or a visually acceptable coating.

33. The method of claim 28, including controlling the applicators to provide a droplet distribution with about 40% to about 70% of the droplets being about 15 microns to about 40 microns in size.

34. A method of controlling multiple bell applicators in a coating process, comprising the steps of:

choosing applicator control parameters to provide a desired coating;

defining a control ratio of atomization energy to coating flow rate based on the chosen applicator control parameters, wherein the control ratio is defined as:

$$S*V/CF$$

where S is the bell cup speed, V is the shaping air supplied, and CF is the coating flow rate; and

adjusting the control parameters for the applicators to substantially maintain the defined control ratio during the coating process .

35. The method of claim 34, including controlling the applicators to provide a droplet distribution with about 40% to about 70% of the droplets being about 15 microns to about 40 microns in size.--

Remarks

This Preliminary Amendment cancels claims 1-21 and 25-27 and adds new claims 28-35. Support for the new claims is found, for example, in the specification at page 16, line 16 to page 18, line 35; Example 4 (page 51, line 14 to page 61, line 17; and original claims 22-24. Claims 22-24 and 28-35 are now in this application.

Respectfully submitted,



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February 28, 2002

MARKED UP VERSION TO SHOW CHANGES MADE

Please amend the paragraph entitled "CROSS-REFERENCE TO RELATED APPLICATIONS" bridging lines 7-14 on page 1 of the application as follows:

CROSS-REFERENCE TO RELATED APPLICATIONS

This patent application is a division of U.S. Patent Application Serial No. 09/439,397 filed November 15, 1999, herein incorporated by reference in its entirety. Also, ~~this~~ patent application is related to U.S. Patent Application Serial No. 09/440,367 ~~entitled "Method and Apparatus for Dynamically Coating a Substrate"; and U.S. Patent Application Serial No. 09/440,610 entitled "Method and Apparatus for Applying a Coating onto a Substrate", both of Vincent P. Dattilo and each filed concurrently with the present application, each of which is~~ herein incorporated by reference in its entirety.